

Positron Emission Tomography (PET) Scanners - A Global Market Overview

Market Report | 2025-01-23 | 253 pages | Industry Experts

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Report description:

Positron Emission Tomography (PET) Scanners Market Trends and Outlook

A PET scanner is a medical imaging device that uses positron emission tomography (PET) technology to produce detailed images of the metabolic and biochemical processes occurring in tissues and organs, aiding in disease diagnosis, treatment monitoring, and medical research. It uses radioactive tracers marked with isotopes such as fluorine-18, which emit positrons that generate gamma rays when interacting with electrons in the body. These gamma rays are detected to produce images of areas exhibiting high metabolic activity, such as tumors, inflamed tissues, or regions affected by neurological conditions. PET scans are commonly used in oncology, neurology, and cardiology, often combined with PET/CT or PET/MRI systems to improve diagnostic accuracy and enable early disease detection by offering anatomical information. By concentrating on molecular mechanisms, PET imaging detects abnormalities at earlier stages compared to many other imaging techniques, making it particularly useful for targeted therapies, exploring complex diseases, and facilitating progress in personalized medicine across various medical specialties. The global market for Positron Emission Tomography (PET) Scanners is anticipated to record a CAGR of 5.6% during the 2024-2030 analysis period and stand at a projected US\$2.5 billion by 2030 from an estimated PET scanners market size of US\$1.8 billion in 2024.

The global positron emission tomography (PET) scanners market is driven by the increasing prevalence of chronic diseases, especially cancer, which requires advanced imaging to ensure accurate diagnosis and effective treatment planning. As the global demographic ages, the demand for diagnostic imaging services is projected to increase, resulting in greater use of PET scans in fields such as oncology, cardiology, and neurology. Technological innovations and the incorporation of hybrid imaging systems like PET/CT and PET/MRI enhance the functionality of PET scanners, enabling better tumor localization and improved treatment monitoring. The development of new radiotracers and imaging agents broadens the diagnostic uses of PET, leading to increased acceptance in clinical environments. Moreover, rising healthcare spending and the growth of healthcare facilities, particularly in emerging countries, support integrating advanced imaging technologies. Education and awareness among medical professionals about the benefits of PET scans further drive market expansion, alongside the increasing focus on personalized medicine, which depends on precise diagnostic tools. In addition, supportive reimbursement policies in several nations improve the availability of PET imaging services, encouraging their routine use in clinical practice.

Positron Emission Tomography (PET) Scanners Regional Market Analysis

North America dominates the global market for PET scanners, accounting for 39.9% of the market share in 2024 due to advancements in PET imaging technologies, especially in oncology, and an increasing occurrence of cancers like breast and

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prostate cancer. The region's robust healthcare infrastructure, high spending levels, and considerable investments in research and development promote the early adoption of advanced medical imaging technologies. The rising demand for precise diagnostics, the launch of innovative imaging devices, and supportive reimbursement policies that improve accessibility further support this region's dominance. In contrast, the Asia-Pacific region is witnessing rapid market growth, projected to experience a CAGR of 6.5% during the forecast period 2024-2030, driven by advancements in healthcare infrastructure, rising disposable incomes, and heightened investments in healthcare technology. The increasing rates of chronic illnesses, including cancer and cardiovascular diseases, alongside strategic actions taken by market players in this area, further propel the demand for PET scanners.

Positron Emission Tomography (PET) Scanners Market Analysis by Type

The positron emission tomography (PET) scanners market is categorized as full-ring and partial-ring PET scanners. The full-ring PET scanner market is the most prominent, accounting for 71.3% of the market share in 2024, and is projected to register rapid growth with a CAGR of 5.8% over the forecast period from 2024 to 2030, fueled by ongoing technological innovations. Full-ring scanners deliver superior image clarity and shorter scanning durations by collecting data from the entire circumference of the body, proving vital for identifying metastatic cancers and subtle irregularities across oncology, neurology, and cardiology. Advances such as digital photon counting, and time-of-flight technology further improve their capabilities. Conversely, partial-ring PET Scanners are experiencing slower growth than full-ring PET scanners owing to their lower image quality and sensitivity, translating to decreased clinical popularity. The rising demand for hybrid imaging technologies and regulatory preferences toward advanced systems further restrict the market potential for partial-ring scanners. Although they present benefits like cost-effectiveness and smaller size, their reduced sensitivity and resolution limit their broader acceptance. Overall, the full-ring PET scanners segment solidifies its position as the largest and fastest-growing market within the PET scanner market.

Positron Emission Tomography (PET) Scanners Market Analysis by Application

The PET scanner market is segmented into oncology, cardiology, neurology, and other applications. The oncology segment leads with a substantial 49.6% market share in 2024, primarily due to the growing prevalence of cancer, which creates a demand for effective screening and monitoring solutions. PET scans are crucial in identifying tumors, evaluating their metabolism, and determining treatment efficacy, making them essential tools for oncology departments globally. Their capacity to identify metabolic alterations in cancer cells increases their significance for diagnostic, staging, and restaging purposes. Meanwhile, the cardiology application segment is anticipated to record the fastest CAGR of 6.6% during the forecast period from 2024 to 2030, driven by the rising prevalence of cardiovascular diseases and the need for non-invasive diagnostic methods. PET imaging is instrumental in evaluating myocardial viability, blood flow, and overall cardiac function, promoting its use in cardiology settings.

Positron Emission Tomography (PET) Scanners Market Analysis by End-User

The PET scanner market is segmented into hospitals, diagnostic centers, and other end-users. The hospital segment leads the PET scanners end-user market, accounting for a 51.4% share in 2024, gaining from high patient volumes and access to innovative diagnostic technologies, including state-of-the-art PET scanners. Established referral networks with insurance providers improve access to these expensive diagnostic machines, as health insurance typically covers the costs of PET scans, easing the financial burden on patients. Although hospitals prevail due to their extensive medical care capabilities, the diagnostic imaging centers segment is expected to witness the most rapid growth, with a CAGR of 6.2% during the analysis period 2024-2030. These centers are broadening their range of services and investing in PET technology, enabling them to provide more cost-effective imaging alternatives.

Positron Emission Tomography (PET) Scanners Market Report Scope

This global report on Positron Emission Tomography (PET) Scanners analyzes the market based on type, application, and end-users for global and regional markets for 2021-2030 period with projection from 2024 to 2030 in terms of value in US\$. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

Key Metrics

Historical Period: 2021-2023

Base Year: 2024

Forecast Period: 2024-2030

Units: Value market in US\$

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Companies Mentioned: 18+

Positron Emission Tomography (PET) Scanners Market by Geographic Region

□□North America (The United States, Canada, and Mexico)

□□Europe (Germany, France, the United Kingdom, Italy, Spain, and Rest of Europe)

□□Asia-Pacific (Japan, China, India, South Korea, and Rest of Asia-Pacific)

□□South America (Brazil, Argentina, and Rest of South America)

□□Rest of World

Positron Emission Tomography (PET) Scanners Market by Type

□□Full-Ring PET Scanners

□□Partial-Ring PET Scanners

Positron Emission Tomography (PET) Scanners Market by Application

□□Oncology

□□Cardiology

□□Neurology

□□Other Applications (Including Inflammatory and Infectious Diseases, Endocrinology, Gastroenterology, and Others)

Positron Emission Tomography (PET) Scanners Market by End-User

□□Hospitals

□□Diagnostic Centers

□□Other End-Users (Including Research Institutes and Specialty Clinics)

Table of Contents:

PART A: GLOBAL MARKET PERSPECTIVE

1. INTRODUCTION

-□□Type Outline

-□□Positron Emission Tomography (PET) Scanners Defined

-□□Portable Medical Device Types

o□□Full-Ring PET Scanners

o□□Partial-Ring PET Scanners

-□□Portable Medical Device Applications

o□□Oncology

o□□Cardiology

o□□Neurology

o□□Other Applications (Including Inflammatory and Infectious Diseases, Endocrinology, Gastroenterology, and Others)

-□□Portable Medical Device End-Users

o□□Hospitals

o□□Diagnostic Centers

o□□Other End-Users (Including Research Institutes and Specialty Clinics)

2. Key Market Trends

3. Key Global Players

-□□PET Producers

o□□Bruker Corporation

o□□Canon Medical Systems Corporation

o□□CMR Naviscan

o□□GE Healthcare

o□□Hitachi High-Tech Corporation

o□□Koninklijke Philips N.V.

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- o Mediso Ltd.
- o Neusoft Medical Systems Co., Ltd.
- o Positron Corporation
- o Radiology Oncology Systems Inc.
- o RefleXion
- o Shimadzu Corporation
- o Siemens Healthineers AG
- o Yangzhou Kindsway Biotech Co., Ltd.
- Component Producers for PET Imaging
- o Modus Medical Devices Inc
- o PETsys Electronics SA
- Healthcare IT Companies for PET Imaging
- o AGFA HealthCare
- o Segami Corporation

4. Key Business & Product Trends

5. Global Market Overview

- Global Positron Emission Tomography (PET) Scanners Market Overview by Type
- o Positron Emission Tomography (PET) Scanners Type Market Overview by Global Region
- Full-Ring PET Scanners
- Partial-Ring PET Scanners
- Global Positron Emission Tomography (PET) Scanners Market Overview by Application
- o Positron Emission Tomography (PET) Scanners Application Market Overview by Global Region
- Oncology
- Cardiology
- Neurology
- Other Applications
- Global Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o Positron Emission Tomography (PET) Scanners End-User Market Overview by Global Region
- Hospitals
- Diagnostic Centers
- Other End-Users

PART B: REGIONAL MARKET PERSPECTIVE

Global Positron Emission Tomography (PET) Scanners Market Overview by Geographic Region

REGIONAL MARKET OVERVIEW

6. North America

- North American Positron Emission Tomography (PET) Scanners Market Overview by Geographic Region
- North American Positron Emission Tomography (PET) Scanners Market Overview by Type
- North American Positron Emission Tomography (PET) Scanners Market Overview by Application
- North American Positron Emission Tomography (PET) Scanners Market Overview by End-User
- Country-wise Analysis of North American Positron Emission Tomography (PET) Scanners Market
- o The United States
- United States Positron Emission Tomography (PET) Scanners Market Overview by Type
- United States Positron Emission Tomography (PET) Scanners Market Overview by Application
- United States Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o Canada
- Canadian Positron Emission Tomography (PET) Scanners Market Overview by Type
- Canadian Positron Emission Tomography (PET) Scanners Market Overview by Application

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- [] Canadian Positron Emission Tomography (PET) Scanners Market Overview by End-User
 - o [] Mexico

- [] Mexican Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Mexican Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Mexican Positron Emission Tomography (PET) Scanners Market Overview by End-User

7. Europe

- [] European Positron Emission Tomography (PET) Scanners Market Overview by Geographic Region
- [] European Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] European Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] European Positron Emission Tomography (PET) Scanners Market Overview by End-User
- [] Country-wise Analysis of European Positron Emission Tomography (PET) Scanners Market

o [] Germany

- [] German Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] German Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] German Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] France

- [] French Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] French Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] French Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] The United Kingdom

- [] United Kingdom Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] United Kingdom Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] United Kingdom Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] Italy

- [] Italian Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Italian Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Italian Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] Spain

- [] Spanish Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Spanish Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Spanish Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] Rest of Europe

- [] Rest of Europe Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Rest of Europe Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Rest of Europe Positron Emission Tomography (PET) Scanners Market Overview by End-User

8. Asia-Pacific

- [] Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by Geographic Region
- [] Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by End-User
- [] Country-wise Analysis of Asia-Pacific Positron Emission Tomography (PET) Scanners Market

o [] Japan

- [] Japanese Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Japanese Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Japanese Positron Emission Tomography (PET) Scanners Market Overview by End-User

o [] China

- [] Chinese Positron Emission Tomography (PET) Scanners Market Overview by Type

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- [] Chinese Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Chinese Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o [] India
- [] Indian Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Indian Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Indian Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o [] South Korea
- [] South Korean Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] South Korean Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] South Korean Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o [] Rest of Asia-Pacific
- [] Rest of Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Rest of Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Rest of Asia-Pacific Positron Emission Tomography (PET) Scanners Market Overview by End-User
- 9. South America
- [] South American Positron Emission Tomography (PET) Scanners Market Overview by Geographic Region
- [] South American Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] South American Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] South American Positron Emission Tomography (PET) Scanners Market Overview by End-User
- [] Country-wise Analysis of Asia-Pacific Positron Emission Tomography (PET) Scanners Market
- o [] Brazil
- [] Brazilian Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Brazilian Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Brazilian Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o [] Argentina
- [] Argentine Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Argentine Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Argentine Positron Emission Tomography (PET) Scanners Market Overview by End-User
- o [] Rest of South America
- [] Rest of South American Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Rest of South American Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Rest of South American Positron Emission Tomography (PET) Scanners Market Overview by End-User
- 10. Rest of World
- [] Rest of World Positron Emission Tomography (PET) Scanners Market Overview by Type
- [] Rest of World Positron Emission Tomography (PET) Scanners Market Overview by Application
- [] Rest of World Positron Emission Tomography (PET) Scanners Market Overview by End-User

PART C: GUIDE TO THE INDUSTRY

PART D: ANNEXURE

1. RESEARCH METHODOLOGY

2. FEEDBACK

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